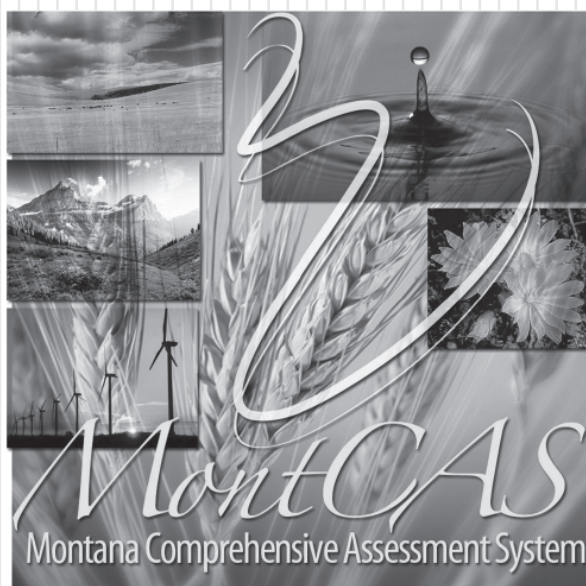# *Montana Comprehensive Assessment System (MontCAS CRT)*

Grade 4
Common Released Items
Spring 2013

Montana
Office of Public Instruction
Denise Juneau, State Superintendent

opi.mt.gov

Reading Directions

This Reading test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes two types of questions: multiple-choice and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK	INCORRECT MARKS
●	◯ ⊙ ⬤ ⊘

If you decide to change your answer to a question, erase the wrong mark completely before filling in the circle of the new answer. Be sure you have only one answer marked for each question. **If two circles are bubbled in for the same question, that question will be scored as incorrect.**

If you are having difficulty answering a question, skip the question and come back to it later. Make sure you skip the circle for the question in your Answer Booklet.

For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

1. What is the capital of Montana?

    A. Browning
    B. Glendive
    C. Helena
    D. Missoula

Reading

Read this passage about an amazing animal. Then answer the questions that follow.

Nightlife of the Sugar Glider
by Robin Darcy Dennis

As night falls, a sugar glider prepares to leave her nest in a tree hollow. Her baby, on her back, rides along. It holds on tight—and for good reason. Sugar gliders have an unusual way of getting around. They glide, swooping from tree to tree in the woodlands of Australia. A loose grip could mean a long fall.

It's late in the afternoon. In a small hollow high in a eucalyptus tree, all is quiet. Six furry gray animals lie curled up fast asleep. The animals are a family of sugar gliders. Three adults and three babies share the leaf-lined nest. Each adult is only a bit larger than a chipmunk. During the day, the sugar gliders stay hidden in the tree hollow.

3 When the sun goes down, the scene changes. One, two, then three heads peek out from the entrance to the nest. The sugar gliders are about to put on a show few people see, since it takes place only at night.

4 Chattering and chirping, the adult gliders begin leaving the nest. Animals that minutes ago looked like balls of fur suddenly take on the appearance of kites or square parachutes. Spreading their front and rear legs, the sugar gliders <u>sail</u> from tree to tree. At each stop, they feed.

Sugar gliders belong to a group of animals called marsupials (mar-soo-pea-ulz). That makes them related to the kangaroo. Like female kangaroos, glider mothers have pouches on their bellies in which they carry their young.

To travel to a distant tree, a sugar glider leaps into the air and stretches out its four legs. Thin folds of skin along the glider's sides spread wide, catching the wind like a kite. The sugar glider's target may be as far away as 150 feet, half the length of a football field. To make a landing, the glider brings its hind legs forward and, with an upward swoop, grabs the tree trunk with all four feet. Sharp claws help it get a good hold.

During the night, the mother returns several times to nurse the babies left behind in the nest. Sugar gliders live in close-knit family groups. As many as a dozen adults and young may share a single nest.

Baby gliders, born tiny and helpless, spend their first couple of months in their mother's pouch. Then they leave the pouch and spend about a month in the nest. Then they begin gliding with their mother. Accompanying the mother outside the nest helps young gliders learn what foods to search for when they begin life on their own.

The animals spend much of their time at night licking sweet-tasting nectar, sap, and pollen from flowering trees. This fondness for sweets is probably what gives them the name *sugar glider*. Gliders also make meals of spiders and insects they find.

While feeding at a common site, family members communicate with chirps, hisses, and gurgles. A loud yapping by one member alerts the others to danger. Among the sugar glider's enemies are owls, cats, and large lizards.

By daybreak, the sugar gliders are back in their nest. They'll spend the day curled up out of sight. After dark, they'll take off again, swooping through the trees in their nightly search for food.

1. Which question is answered by the information in the **first** paragraph?

   A. Why do sugar gliders leave the nest?

   B. What country do sugar gliders live in?

   C. How many sugar gliders share a nest?

   D. What do sugar gliders like to eat?

2. In paragraph 3, the phrase "put on a show few people see" suggests that the sugar gliders are

   A. afraid of the dark.

   B. confused by people.

   C. hiding in a nest.

   D. interesting to watch.

> **sail** *v* **1.** to travel on water in a ship: *The ship sailed into the harbor*. **2.** to move smoothly: *The ball sailed over the fence*. **3.** to attack quickly: *They sailed into their dinner*. **4.** *n* a sheet of canvas used to move a boat: *The boat had a large sail*.

3. Which meaning of the word <u>sail</u> is used in paragraph 4?

   A. meaning 1
   B. meaning 2
   C. meaning 3
   D. meaning 4

4. How do the thin folds of skin along the glider's sides help it move from tree to tree?

   A. They provide balance.
   B. They flap like wings.
   C. They catch the wind.
   D. They swoop upward.

5. Which paragraph **best** describes what the sugar glider is doing in the photograph?

   A. paragraph 2
   B. paragraph 3
   C. paragraph 6
   D. paragraph 8

6. The **main** purpose of this passage is to

   A. inform the reader about the life of sugar gliders.
   B. explain how to take care of sugar gliders.
   C. encourage the reader to watch sugar gliders.
   D. compare sugar gliders to other animals.

7. Which source would be the **best** for more information about sugar gliders?

   A. a book about Australian animals
   B. a dictionary entry for the word "Australia"
   C. a magazine about Australian travel
   D. a map showing Australian parks

The Raft
by Jim LaMarche

I was already down at the dock the next morning when Grandma appeared with a life jacket and a long pole. She didn't seem surprised by the raft at all, or by the animal pictures all over it.

"How did you know . . . ?" I started.

"Let's go," Grandma interrupted, tossing me the life jacket and stepping onto the raft. She pushed the pole hard into the river bottom and we moved smoothly into the current.

4   "Your turn," she said after a few minutes. She showed me how to hold the pole and push, and I <u>poled</u> us to the middle of the river. Even there, the water wasn't over my head.

We poled the raft up the river, then let it slowly drift back down. The birds kept us company the whole time, soaring, swooping, singing. Some even landed on the raft and rode with us for a while. Hitchhikers, Grandma called them.

After that, I had little time for anything but the raft. I raced through whatever chores there were, then ran down to the dock, wondering what animals I'd see that day.

7   It wasn't just birds that the raft attracted. One morning three raccoons followed me along the shore. Another time a turtle climbed on board and spent the morning sunning itself. And one afternoon I saw a family of foxes <u>slip</u> through the trees along the river.

When the weather turned too hot and sticky to sleep indoors, Grandma helped me put up a small tent on the raft. I lay on top of the cool sheets and read comic books by flashlight until I fell asleep. One night, a noise woke me up. There in the moonlight stood a huge buck. He looked right at me, then lowered his head to drink, as if I wasn't there at all.

I found Grandma the next morning working on her bear carving.

"Do you have some extra paper I could draw on?" I asked her.

11   She brought out a big sketchpad and a pouch filled with thick pencils and crayons. "I've been saving these just for you," she said. "Better take these, too." She held out the snorkel and mask. "Never know when they might come in handy on a raft."
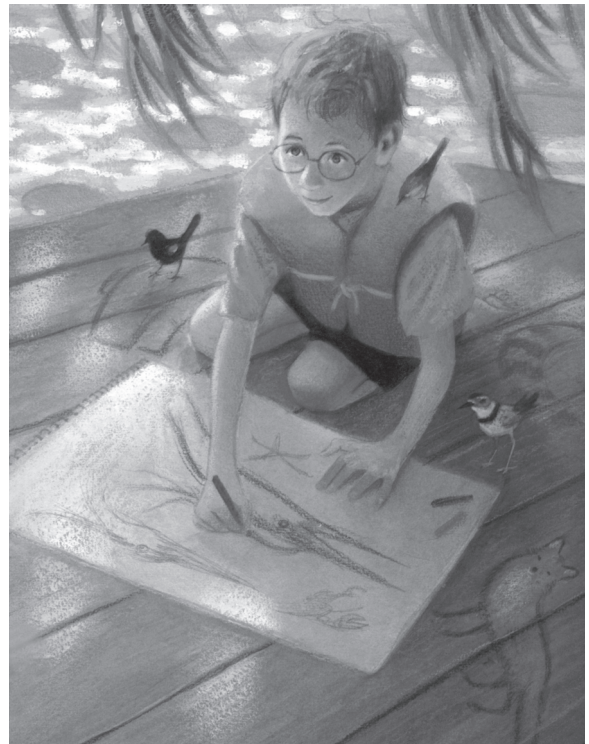
12 The sun was hot that afternoon, so I poled into the shade of a willow, then waited to see what animals the raft would bring. It wasn't long before a great blue heron whooshed down with a crayfish in its bill.

I grabbed a pencil and began to sketch. I felt invisible as the bird calmly ate its lunch right in front of me. Then it preened its feathers, looked back up the river, and flew off.

That night I showed my drawing to Grandma.

"Not bad," she said. "Not bad at all!" And she tacked it on the wall on top of one of her own sketches.

16 One day I poled upriver farther than I'd ever been. Near a clump of tall cattails, I startled an otter family. They dove underwater, but, as with the other animals, the raft seemed to calm them down. Soon they were playing all around me.

Grandma had been right about the mask and snorkel coming in handy. I slipped them on, then hung my head over the raft and watched the otters play—chasing fish, chasing each other, sometimes just chasing their own tails. I kept very still, but they didn't seem to mind me watching. They played keep-away with a small stone, then tug-of-war with a piece of rope. It was like they were showing off for me.

8. In paragraph 4, what does the boy notice about the river?

   A. It is not very deep.
   B. It has a muddy bottom.
   C. It is not very wide.
   D. It has a strong current.

9. In paragraph 4, the author writes, "She showed me how to hold the pole and push, and I poled us to the middle of the river." Which word in this sentence **best** helps the reader understand the meaning of the word poled?

   A. showed
   B. hold
   C. push
   D. river

10. Why does Grandma call some of the birds "hitchhikers"?

   A. They sing loudly as they fly above the raft.
   B. They fly in circles above Grandma and the boy.
   C. They follow the raft as it drifts down the river.
   D. They ride on the raft with Grandma and the boy.

slip *n* **1.** a piece of paper: *a note written on a slip of paper* **2.** a place to park a boat: *a boat tied to a slip* *v* **3.** to move quietly: *to slip out of a room* **4.** to lose balance: *to slip on ice*

11. Which meaning of the word slip is used in paragraph 7?

    A. meaning 1

    B. meaning 2

    C. meaning 3

    D. meaning 4

12. What can a reader **mainly** learn about Grandma from paragraph 11?

    A. She knows what is needed.

    B. She enjoys drawing pictures.

    C. She enjoys diving underwater.

    D. She knows how to collect things.

13. In paragraph 12, which word makes the blue heron sound like it is moving quickly?

    A. great

    B. whooshed

    C. down

    D. crayfish

14. In paragraph 16, the word startled means the **same** as

    A. caught.

    B. frightened.

    C. trapped.

    D. watched.

15. How do many animals behave when the boy and the raft are close by?

    A. They try to eat the boy's food.

    B. They stay calm as they eat and play.

    C. They look at the pictures that are painted on the raft.

    D. They remain still while the boy draws pictures of them.

16. Grandma's own sketch that she has on the wall is **most likely** a drawing of

    A. an animal.

    B. a lake.

    C. a mountain.

    D. a raft.

17. Which question **cannot** be answered by reading this passage?

    A. How long had Grandma been making her bear carving?

    B. Who taught the boy how to pole a raft up the river?

    C. What animal did the great blue heron catch in its bill?

    D. How did the boy watch the otters under the water?

18. What is this passage **mostly** about?

    A. taking care of animals

    B. watching animals carefully

    C. preparing to ride on a raft

    D. learning to draw better pictures

19. Where would a person **most likely** learn about other books the author of this passage has written?

    A. in a dictionary under "raft"

    B. on a television show about rivers

    C. in the "L" volume of an encyclopedia

    D. on an Internet Web site about Jim LaMarche

20. Describe what the boy learns from his experiences on the river. Use details from the passage to explain your answer.

Scoring Guide

Score	Description
4	Response provides a thorough description of what the boy learns from his experiences on the river. Description includes specific, relevant details from the passage.
3	Response provides a description of what the boy learns from his experiences on the river. Description includes supporting details from the passage, but lacks specificity, relevance, and/or development.
2	Response provides a partial description of what the boy learns from his experiences on the river. Description includes limited details from the passage and/or is partially correct.
1	Response makes a vague or minimal statement about the boy or his experiences on the river.
0	Response is totally incorrect or irrelevant.
Blank	No response.

Training Notes

A thorough response will include a description of the boy's experiences on the river. Details from the passage may include, but are not limited to, the following:

- He learns to pole the raft along the river.
- He learns about the many animals that visit the raft.
- He learns about a huge buck when he sleeps on the raft.
- He learns how to draw pictures of the animals that visit the raft.
- He learns how to use a mask and snorkel to look at animals under the water.
- He learns that the animals are not afraid of him; they calmly eat and play when around the raft.

Example of Score Point 4

The boy learns on his experiences that it is exciting to see animals around him. He also learns how to draw and what some animals eat. He learns that the soft can hold a lot of weight. Another thing that he learned was otters can hold there breath for a long time and they like to play keep away and other games. In fact, he had learned animals are not afraid of people because when he saw the back he did not notice him and when the bird just stood there eating, while the boy was drawing him. One more thing that he learned was that his grandma is smart after she said, "Here are some snoreecles. And they might come in handy." To sum up, I gave you a lot of answers on what the boy learns on his experiences.

Example of Score Point 3

The boy learned that the river is a very fun place. He set up a tent by the raft. He would read comic books at night until he falls asleep. He also learned that there are many different animals like foxes, heron, crayfish, and otters, and he can draw anyone of them. One day he asked for some drawing paper she gave him some and also gave him a snorkel and mask. Turned out he used them to watch a otter family chase a fish, each other and their tails.

Example of Score Point 2

He learns nature can be very enjoyable. He also learned that bucks, great blue herons, foxes, small birds, turtles, raccoons, and otters can be very playful and beautiful. He learns that he is a very skilled artist like his Grandma.

Example of Score Point 1

The boy learns that animals like him and the raft.

Example of Score Point 0

The boy will not find it.

Read this passage about a girl named Reeba and her winning invention. Then answer the questions that follow.

The All-in-One Washer/Dryer
by Arlene Erlbach

"I wanted to design an automatic rabbit feeder for my school invention project," Reeba Daniel said. "But my teacher told me that automatic pet feeders had already been invented."

Then Reeba's mom gave her a suggestion. "Invent something everyone could use—something that saves time."

A few days later, Reeba was folding laundry. She thought about how doing laundry is a two-step job. First the clothes go into the washer. Then, when they're damp and heavy, somebody needs to lift them into the dryer. Reeba thought about inventing a machine that would wash and dry clothes in one step.

Reeba began drawing pictures. Her first idea involved placing the washer and dryer side by side. A conveyor belt would move the clothes from the washer to the dryer. The idea certainly seemed useful—but too complicated! It would also be very expensive to manufacture.

Reeba thought of a simpler way to make her idea work. The washer could be on top of the dryer. Her washer would have a trapdoor that would open following the drain cycle. The clothes would drop into the dryer, making it start. A computerized device could time each of the cycles.

Reeba didn't make a working model of her invention. It would have cost thousands of dollars to build. Instead, she did what many inventors do: Reeba drew a diagram of her invention. Then she made a model of it, from cardboard. From her diagram and model, people could see how her invention would look.

Reeba's invention won a prize at her school's invention fair. She also won a prize from a national organization that included a trip to Washington, D.C.

21. Why are quotation marks used in the first paragraph?

A. They give the main idea of the passage.

B. They show the exact words Reeba spoke.

C. They are connected to the idea in the title.

D. They show that Reeba wrote the passage.

22. After Reeba thought of an invention, what did she do **first**?

A. She made a model of her invention.

B. She drew some pictures of her invention.

C. She told others about her invention.

D. She figured out the cost of her invention.

23. Why did Reeba decide not to use a conveyor belt as part of her invention?

A. She thought it would cost too much to make.

B. She did not think people would buy it.

C. She thought it would make too much noise.

D. She did not know how useful it would be.

24. Which sentence from the passage contains an **opinion**?

A. "She thought about how doing laundry is a two-step job."

B. "The idea certainly seemed useful—but too complicated!"

C. "Reeba thought of a simpler way to make her idea work."

D. "A computerized device could time each of the cycles."

25. What is the **main** purpose of the photograph in the passage?

A. to prove Reeba invented something

B. to show a proud moment for Reeba

C. to prove inventing takes a lot of work

D. to show why students should be inventors

26. What would Reeba **most likely** tell someone who wants to be an inventor?

A. "To keep trying is the key to success as an inventor."

B. "Most useful inventions have already been thought of."

C. "Inventing something good and useful is not for everyone."

D. "A working model is the best way to show off an invention."

27. How is the information in this passage **mostly** organized?

A. by giving answers to questions

B. by comparing and contrasting things

C. by giving the most important facts first

D. by listing events in the order they happened

Mathematics Directions

This Mathematics test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes three types of questions: multiple-choice, short-answer, and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK	INCORRECT MARKS
●	◯ ⊙ ◐ ⊘

If you decide to change your answer to a question, erase the wrong mark completely before filling in the circle of the new answer. Be sure you have only one answer marked for each question. **If two circles are bubbled in for the same question, that question will be scored as incorrect.**

If you are having difficulty answering a question, skip the question and come back to it later. Make sure you skip the circle for the question in your Answer Booklet.

For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

1. Montana is the **fourth** largest state. How many states are larger than Montana?

   A. 1
   B. 3
   C. 10
   D. 42

Mathematics (No Calculator)

1. Kerry used circles and squares to make the pattern shown below.

   Step 1 ○○□○○

   Step 2 ○○□□○○

   Step 3 ○○□□□○○

   Step 4 ?

   Step 5 ○○□□□□□○○

   Which set of circles and squares shows Step 4 of Kerry's pattern?

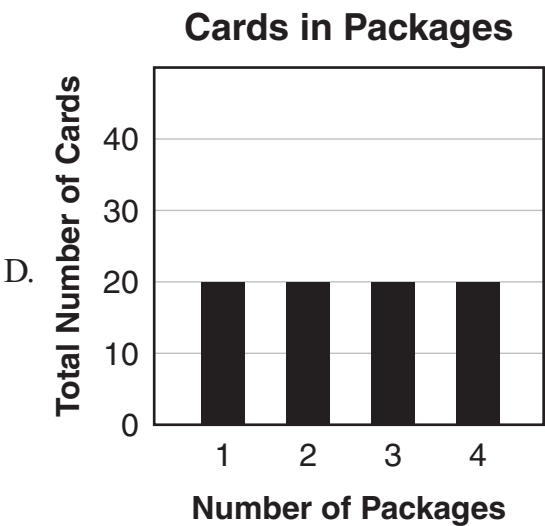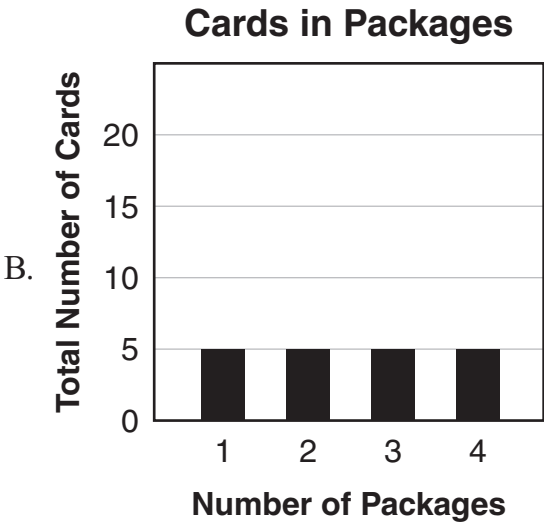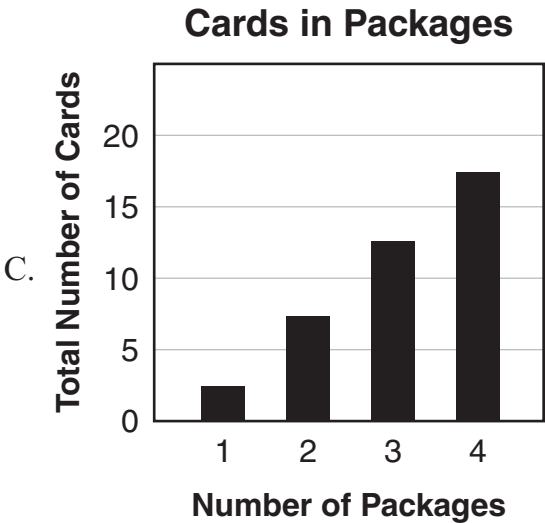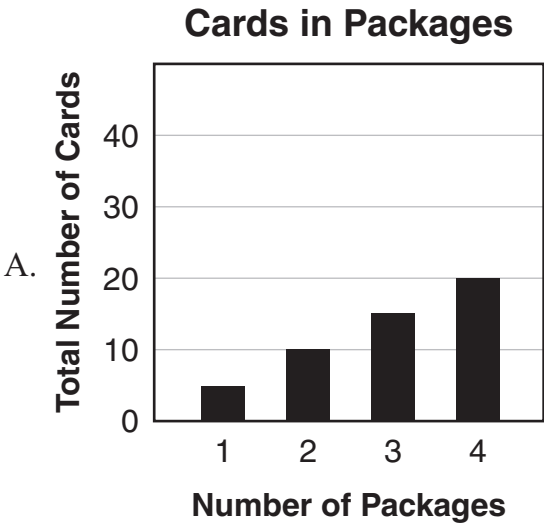   A. ○□□□□○

   B. ○○□□□□□□□○○

   C. ○○□□□○○

   D. ○○□□□□○○

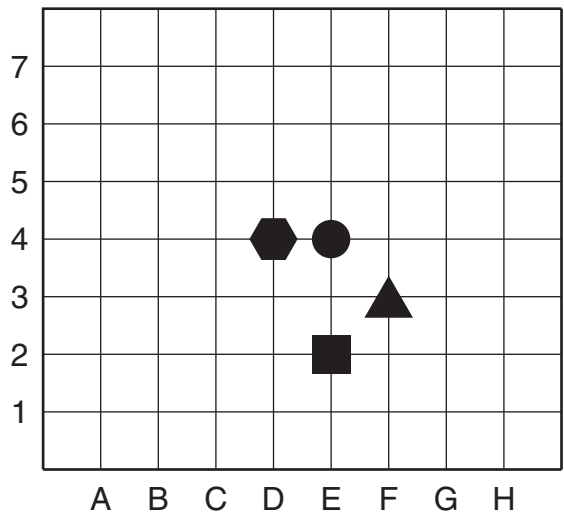2. The chart below shows the total number of cards in different numbers of packages.

Cards in Packages

Number of Packages	Total Number of Cards
1	5
2	10
3	15
4	20

Which bar graph shows the same information?

A.

Cards in Packages

C.

Cards in Packages

B.

Cards in Packages

D.

Cards in Packages

3. Look at the grid below.

What shape is at (E, 4)?

A. ●

B. ⬣

C. ■

D. ▲

4. A zookeeper has 17 monkeys to put in cages. Each cage holds 5 monkeys. She wrote the division problem shown below to find how many cages she will need.

$$17 \div 5 = 3 \text{ R2}$$

What is the fewest number of cages the zookeeper will need?

A. 2

B. 3

C. 4

D. 5

5. The chart below shows the shoe sizes some students wear.

Shoe Sizes

Student	Shoe Size
Abby	5
Bernie	5
Pedro	4
Natalie	3
Ivan	7
Liz	4
Dante	6
Kendra	4

What is the **most common** shoe size these students wear?

A. 4

B. 5

C. 7

D. 8

6. Multiply:

$$
\begin{array}{r}
315 \\
\times \quad 72 \\
\hline
\end{array}
$$

7. Look at the number sentence below.

   $\bigcirc + \bigcirc + 12 = 8 + 6 + 10$

   Each circle has the same value. What is the value of a circle?

8. The chart below shows the costs of school supplies at a school store.

School Store

School Supply	Cost
Box of crayons	$0.60
Box of markers	$1.45
Notebook	$1.10
Pencil	$0.25
Ruler	$0.30

a. Nathan bought two pencils and a notebook at the school store. How much money did he spend at the school store?

b. Lester bought three different school supplies at the school store. He spent **exactly** $2.00. List three school supplies Lester could have bought.

c. Mike has $1.00 to spend on school supplies at the school store. Write a word problem about Mike buying school supplies at the school store. The problem must be solved using subtraction.

d. Solve the word problem you wrote in part c.

Scoring Guide

Score	Description
4	4 points
3	3 points
2	2 points
1	1 point
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured
Blank	No response.

Training Notes

Part a: 1 point   correct answer, **$1.60**

Part b: 1 point   correct answer, **crayons, ruler, notebook or markers, pencil, ruler**

Part c: 1 point   writes an appropriate word problem

Part d: 1 point   solves problem in part (c)

Sample Responses:

Parts (c) and (d): Mike has one dollar. He bought crayons. How much money does Mike have now? $0.40

Mike bought a pencil and a ruler at the school store. How much money does he have left? $0.45

Example of Score Point 4

a.
```
   .25        $1.10
  +.25       +$ .50
  ----       --------
   50        [1.60]
```

b. Ruler, pencil, and a box of markers

c. Mike has $1.00. If he buy a ruler and a pencil what will he have left?

d.
```
  $0.30        $x.90
 +$0.25       -$0.55
 --------      --------
 $ 0·55       $0.45
```

Example of Score Point 3

a. He spent 2 dollars and 45 cents at School store.

$$\begin{array}{r} 1.85 \\ \underline{.60} \\ 2.45 \end{array}$$

b. He bought a ruler, a note book, and a box of crayons.

c. If mike wants to buy a box of markers and a ruler how much more money will he need?

D. He will need 75 Cents.

$$\begin{array}{r} 1.45 \\ + \;\; .30 \\ \hline 1.75 \\ - 1.00 \\ \hline 0.75 \end{array}$$

Example of Score Point 2

A. He spent $1.60.

B. 3 boxes of crayons and a Ruler.

c. Mike has $1.00 to spend and He gets 2 boxes of crayons How much money bid he Spend?

d. He spent $1.20.

Example of Score Point 1

A)
$$\begin{array}{r} \$0.25 \\ \$0.25 \\ + \$1.10 \\ \hline \$1.60 \end{array}$$
Nathan spent $1.60¢ at the school store.

B) Lester bought 2 notebooks 4 pencils and it all costs $2.00.

C) Mike had $1.00 the he spent it on a box of crayons and 4 notebooks.

D)
$$\begin{array}{r} 1.00 \\ 0.80 \\ 1.10 \\ 1.10 \\ - 1.10 \\ \hline 0.30 \end{array}$$

Example of Score Point 0

A) $1.10
    + .25
      .25
    —————
    2.00   He spent $2.00 all together.

B) He could buy 1 notebook, 2 pensuls. That
   is how he could spend $2.00.

C) Mike could buy 1 ruler and 1
   pensul that would be $1.00.

D) ¢.30
    - .25
   —————
   $1.00

9. Look at Figure P below.

Figure P

5 meters · 5 meters · 8 meters · 8 meters · 8 meters
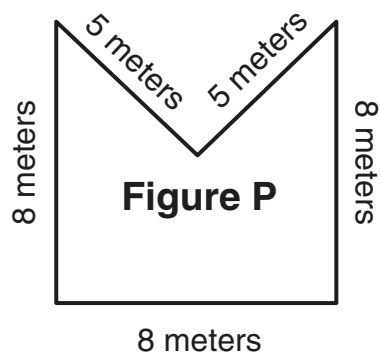
What is the perimeter of Figure P?

A. 26 meters

B. 34 meters

C. 40 meters

D. 80 meters

10. Look at the shape below.
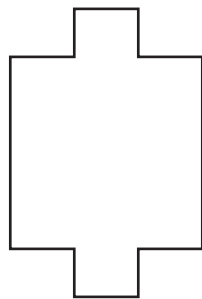
How many lines of symmetry does the shape have?

A. 6

B. 4

C. 2

D. 1

11. Caroline put stickers on cards. She put 5 stickers on each card. Which tally chart shows the total number of stickers Caroline put on different numbers of cards?

Stickers on Cards

A.

Number of Cards	Total Number of Stickers
1	卌
2	卌 卌
3	卌 卌 卌
4	卌 卌 卌 卌

Stickers on Cards

B.

Number of Cards	Total Number of Stickers
1	卌
2	卌
3	卌
4	卌

Stickers on Cards

C.

Number of Cards	Total Number of Stickers
1	卌
2	卌	
3	卌 ||
4	卌 |||

Stickers on Cards

D.

Number of Cards	Total Number of Stickers
1	卌
2	卌 卌
3	卌 卌
4	卌 卌 卌

12. You may use the model below to help you answer the question.

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

What is $\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$?

A. $\frac{1}{12}$

B. $\frac{3}{12}$

C. $\frac{1}{4}$

D. $\frac{3}{4}$

13. Leonard is making the pictograph below to show the number of crayons each of his friends has.

Crayons

Friend	Number of Crayons
Sally	✏✏✏✏✏
Quinn	
James	✏✏✏✏

Key

✏ stands for 10 crayons

Quinn has 20 crayons. How many crayons should Leonard draw on the pictograph to show the number of crayons Quinn has?

A. 2

B. 9

C. 10

D. 20

14. Jesse is 53 inches tall. Which measurement also shows how tall Jesse is?

A. 4 feet 3 inches

B. 4 feet 5 inches

C. 5 feet 3 inches

D. 5 feet 5 inches

15. Dennis used four line segments to draw a polygon. Which drawing did Dennis make?

A.

B.

C.

D.
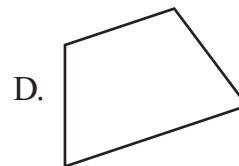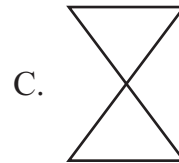
16. Ms. Watts wants to know which school lunches the students at her school like the most. Which question would be **best** for her to ask the students?

    A. Do you eat school lunch?
    B. What is for school lunch today?
    C. Do you like pizza for school lunch?
    D. What is your favorite school lunch?

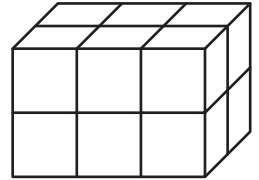17. Look at the equations below.

    $$3 \times 3 = y$$
    $$y + z = 15$$

    In these equations, y represents the same number. What number does z represent?

    A. 6
    B. 9
    C. 12
    D. 24

18. Nelson and Wendy used cubes to make the prisms shown below.
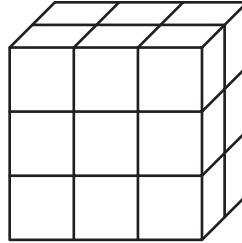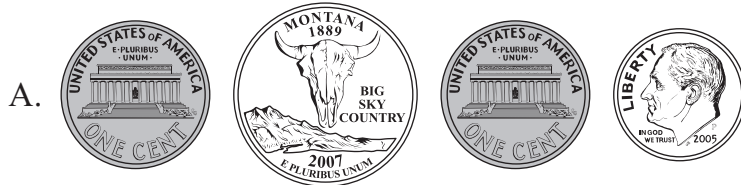

    Nelson   Wendy

    How many **more** cubes did Nelson use than Wendy?

    A. 1
    B. 5
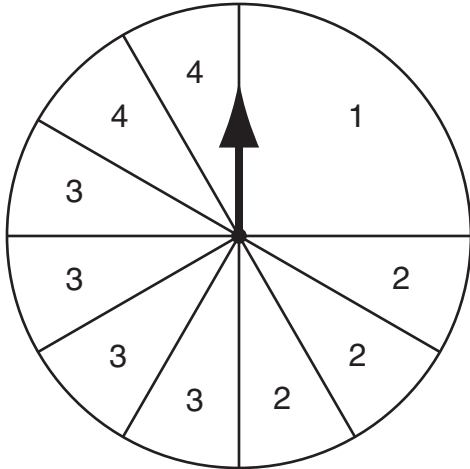   C. 6
    D. 11

19. Dan has the set of coins shown below.

Which set of coins has the same value as Dan's set of coins?

A.

B.

C.

D.

20. Which number pattern follows the rule "Add 5, subtract 3"?

A. 5, 3, 9, 7, 13, 11, 17

B. 4, 9, 6, 12, 8, 15, 10

C. 2, 7, 12, 17, 22, 27, 32

D. 5, 10, 7, 12, 9, 14, 11

21. Lonnie spins the arrow on the spinner shown below one time.

Which number is the arrow **least likely** to land on?

A. 1
B. 2
C. 3
D. 4

22. Mrs. Richards put 24 desks in rows. Each row has the same number of desks. She made 4 rows of desks. Which number sentence can be used to find how many desks are in each row?

A. $24 \times 4 = \square$
B. $4 \div 24 = \square$
C. $24 \div \square = 4$
D. $24 \times \square = 4$

23. Which pair of shapes shows a flip over the dotted line?

A.

B.

C.

D.
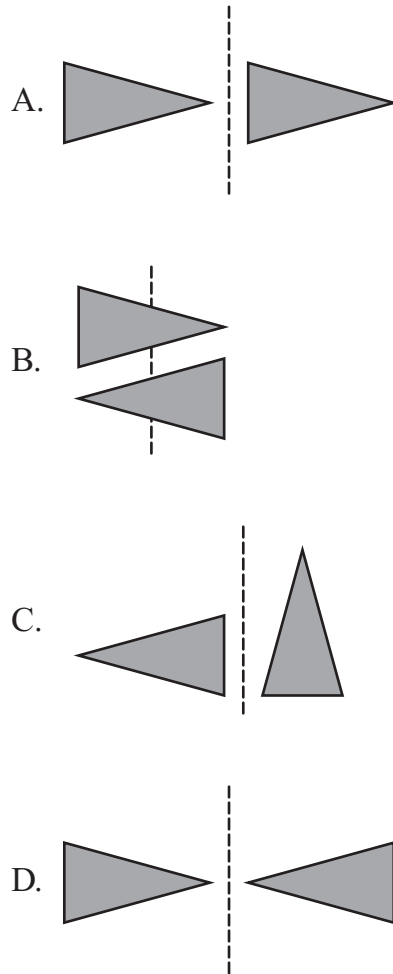
Science Directions

This Science test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes two types of questions: multiple-choice and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK	INCORRECT MARKS
●	○ ⊙ ◕ ⊘

If you decide to change your answer to a question, erase the wrong mark completely before filling in the circle of the new answer. Be sure you have only one answer marked for each question. **If two circles are bubbled in for the same question, that question will be scored as incorrect.**

If you are having difficulty answering a question, skip the question and come back to it later. Make sure you skip the circle for the question in your Answer Booklet.

For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

1. What is the state animal of Montana?

    A. elephant
    B. giraffe
    C. grizzly bear
    D. zebra

Science

1. A newborn coyote pup gets milk from its mother. What kind of behavior is this?

   A. instinct
   B. learned
   C. migration
   D. troublesome

2. The diagram below shows a balloon rocket built by a student and a real space rocket.

Balloon rocket   Space rocket
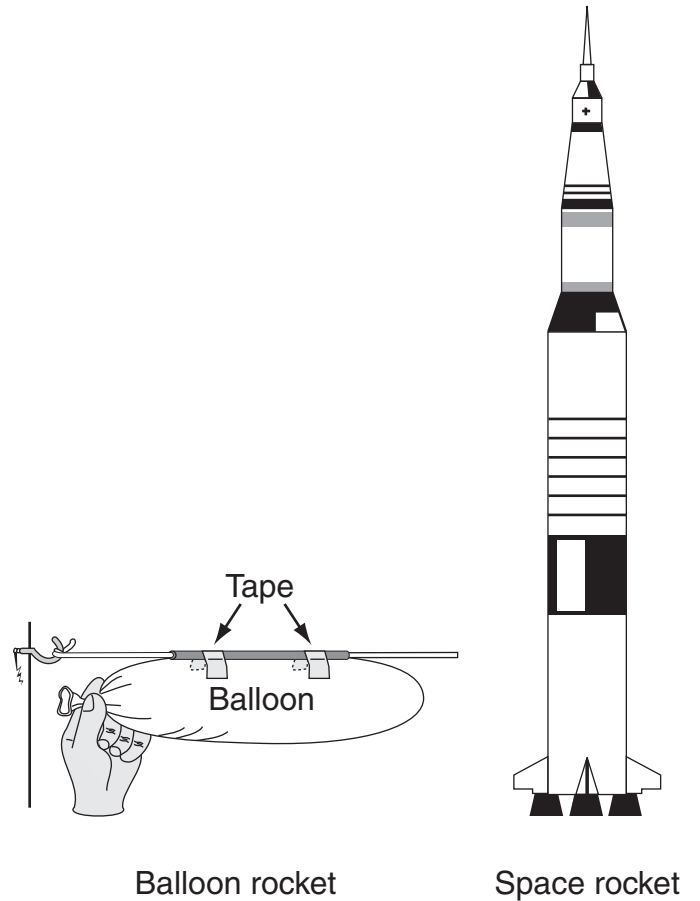
How are the balloon rocket and the space rocket alike?

   A. Both are made of the same materials.
   B. Both have a force that pushes them.
   C. Both burn gas to move quickly.
   D. Both have large engines for power.

3. The tables below show the hardness numbers of four objects and four minerals. The higher the number, the harder the object.

Hardness of Objects

Object	Hardness
Fingernail	$2\frac{1}{2}$
Copper penny	$3\frac{1}{2}$
Glass	5
Steel knife	6

Mineral Hardness

Mineral	Hardness
Talc	1
Gypsum	2
Apatite	5
Quartz	7

Which mineral can be scratched by a steel knife but is too hard to be scratched by a copper penny?

A. talc

B. gypsum

C. apatite

D. quartz

4. How could a student **best** learn how to look for star patterns?

A. by listening to a speech about the solar system

B. by using a map of the stars and a telescope

C. by reading the evening weather report

D. by looking at a Web site about Sun sounds

5. Historically, some Montana American Indians observed animal fur and decided to make mittens like the ones shown in the picture below.

Which physical characteristics of animal fur made it a good choice for mittens?

A. Fur is strong and does not get dirty.

B. Fur does not burn and is easy to clean.

C. Fur absorbs moisture and can be dyed.

D. Fur is soft and protects from the cold.

6. A student used the procedure below to do an investigation.

- Fill four identical pots with the same type and amount of soil.
- Plant three pea seeds in each pot.
- Put the same amount of water in each pot.
- Place each pot in a location with a different temperature.

Which question could **best** be answered by the student's investigation?

A. What type of soil holds the most water?

B. How much soil do seeds need to grow?

C. How does temperature affect seed growth?

D. What types of seeds grow best at different temperatures?

7. Volcanoes force hot liquid rock up to Earth's surface. What happens to the hot liquid rock as it cools?

A. It becomes water.

B. It becomes a gas.

C. It becomes a solid.

D. It becomes heavy.

8. What is the **best** way for a student to find out which flower color attracts the most butterflies?

A. use an insect book to identify butterflies

B. use a plant book to identify plants

C. make a map of the flower colors and butterflies in a garden

D. make a record of the number of butterflies visiting each flower

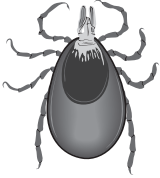9. Four characteristics of an organism are listed below.

- warm-blooded
- gives birth to young
- uses lungs for breathing
- takes care of young

Which organism has all four of these characteristics?

A.
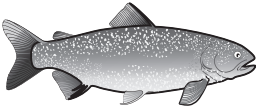
B.

C.

D.

10. What happens during precipitation?

A. Water falls to Earth.

B. Water changes from a liquid into a gas.

C. Water changes from a liquid into a solid.

D. Water comes out of the leaves of trees.

11. Prairie environments contain grasses and other plants called forbs (nonwoody plants). This environment has little rain and wide temperature ranges. Prairies have rolling hills, wide river valleys, dry soil, and sometimes fires. The table below lists characteristics and diets of four animals.

Prairie Animals

Animal	Characteristics	Diet
F	• Small mammal • Burrows in soil • Active at night • Mostly gets water from eating plants	Grasses, weeds, seeds, earthworms, insects
G	• Amphibian • Lives in or near water • Active day or night	Snakes, worms, insects, salamanders, fish, tadpoles
H	• Large mammal • Active during the day • Grazes in continuous moving herds • Takes in water once a day	Grasses and weeds
J	• Bird • Nests in burrows • Active day and night • Spends a lot of time on the ground	Small mammals, birds, reptiles, amphibians

a. Choose **two** animals from the table that can survive in a prairie environment.

b. Describe **two** things about the animals you chose in part a that make them able to live in a prairie environment.

Scoring Guide

Score	Description
4	Response demonstrates a thorough understanding of the relationship between the living and nonliving components of an ecosystem. Response lists two animals that can survive life in a prairie and explains why these animals can survive. Response is thorough.
3	Response demonstrates a general understanding of the relationship between the living and nonliving components of an ecosystem. Response is general.
2	Response demonstrates a limited understanding of the relationship between the living and nonliving components of an ecosystem. Response is limited.
1	Response demonstrates a minimal understanding of the relationship between the living and nonliving components of an ecosystem. Response is minimal.
0	Response is incorrect or contains work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

a. Responses can include animals F, G, H, and J; no credit

b. Reasons for survival; one point for each valid trait. Each animal can only be assigned two traits.

- All of the animals are able to find enough food sources.
- All of the animals can find or make a home on or in the ground or in rivers.
- Animals F, H, and J can live in dry conditions.
- Animal F can get water mostly from foods and does not lose a lot of water; F is nocturnal, which helps during hot days.
- Animal H can move to a place where it can find food when conditions change; H can find food regardless of the weather.
- Animal G can find a home in rivers.

Example of Score Point 4

a. H, F

b. Two things that help animal "H" are that they graze on grass and the paragraph says that Parie enviroments are that is contains grass. The second thing is that it says takes water in once a day, and the paragraph says it has little rain.
For animal "F" is the same as the second reason for animal "H" and that was it gets little rain. And the second reason is it burrows in the soil and lots of animals in the parie burrow in the ground and live there.

Example of Score Point 3

Animal F and J could most likely survive in a prairie because they don't need a lot of water.

Animal F gets most of it's water from eating other plants so it wouldn't need to drink out of a pond or river.
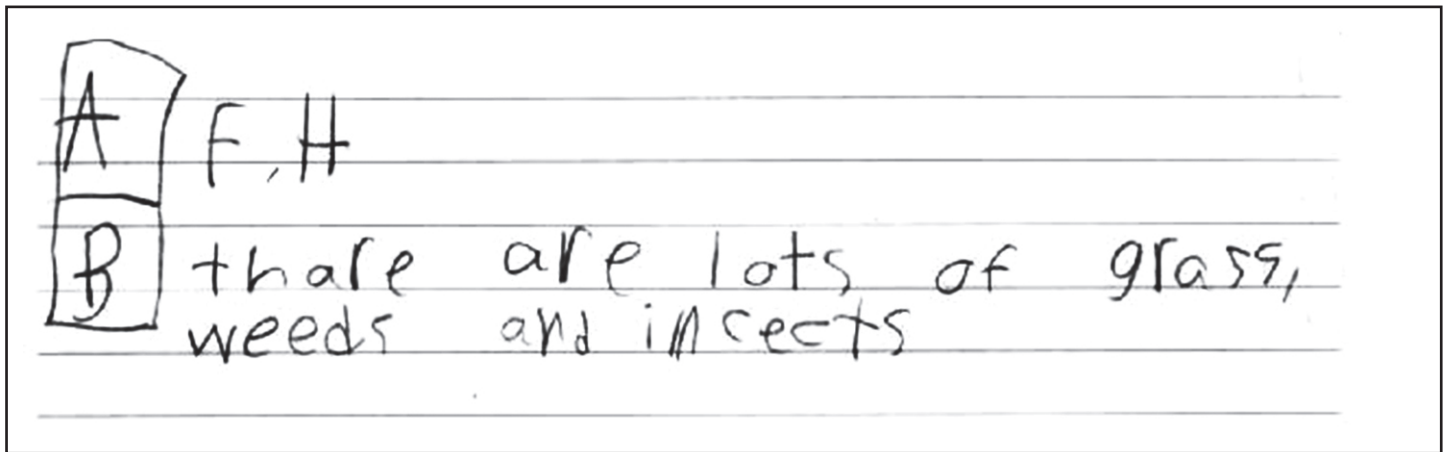
Animal H takes in water once a day so it would need a sorce of water near by. It also travles in herds so it would need a lot of land and space.

Example of Score Point 2

a. H and J

b. I think they can live on a prarie because they don't need alot of water and a prarie dosn't have much water so that is why I think the animals H and J can live their.

Example of Score Point 1

A   F, H

B   thare are lots of grass, weeds and insects

Example of Score Point 0

A. Small mammals, Reptiles

B. Mammals are yust to it because there mammals, And reptiles can because there use to being on land.

12. Read the text box below.

- Rock is washed down a mountain to a stream.
- Masses of dirt and rock are moved to another place.
- Large rocks are broken by frost.
- Plant growth in soil helps stop this process.

What process is being described in the text box?

A. earthquake
B. erosion
C. pollution
D. volcanic eruption

13. Read the information in the box below.

Healthy birch trees have grown near an elementary school for years. One summer, many of the trees begin losing their leaves. A few months later, the trees appear to be dying.

How can students at the school **best** help scientists figure out why the birch trees appear to be dying?

A. by writing letters about the trees to scientists
B. by planting new trees for scientists to study
C. by reading articles scientists have written about the trees
D. by collecting soil, leaves, and insects for the scientists to study

14. A teacher shows her class an experiment using six of the same type of candles.

- She lights (burns) three of the candles on a candlestick.
- She lights the other three candles and then places each of them under a glass jar turned upside down.
- She measures the time it takes for each candle to burn out.

The table below shows the data she collected.

Candle	Place	Time to Burn Out
1	Uncovered	2 hours 28 minutes
2	Uncovered	2 hours 29 minutes
3	Uncovered	2 hours 27 minutes
4	Covered	1 minute 22 seconds
5	Covered	1 minute 15 seconds
6	Covered	1 minute 18 seconds

What does the data in the table show?

A. The covered candles burn slowly.

B. The covered candles burn longer than the uncovered candles.

C. The uncovered candles burn quickly.

D. The uncovered candles burn longer than the covered candles.

15. Which unit should be used to measure the mass of a small frog?

A. grams

B. kilometers

C. liters

D. meters

16. The pictures below show the appearance of the Moon for three nights.

Night 1 Night 2 Night 3

How will the Moon appear on the fourth night?

Night 4

A.

Night 4

B.

Night 4

C.

Night 4

D.

17. A student has four balls that are the same size but differ in weight. He places each ball on a starting line and rolls them toward a wall made of blocks. Which ball will **most likely** knock the wall over?

A. the ball that weighs as much as a paper clip

B. the ball that weighs as much as a ruler

C. the ball that weighs as much as a pencil

D. the ball that weighs as much as a textbook

18. How do plants get the energy they need to live?

A. by taking in rain

B. by taking in soil

C. by taking in fertilizer

D. by taking in sunlight

19. The table below shows a five-day forecast.

Monday	High 72°F Low 58°F Sunny
Tuesday	High 75°F Low 60°F Breezy
Wednesday	High 71°F Low 59°F Cloudy
Thursday	High 67°F Low 52°F Chance of showers
Friday	High 66°F Low 52°F Rain

What does the information in the table describe?

A. altitude

B. climate

C. latitude

D. weather

20. For hundreds of years, many people believed that Earth was flat. Scientists now know that Earth is shaped like a sphere. How do scientists now know the shape of Earth?

A. Many scientists worked in different ways to find the shape of Earth.

B. The smartest scientists did one experiment to find the shape of Earth.

C. Many scientists traveled around Earth to ask people their opinions.

D. One scientist took pictures at many different locations on Earth.

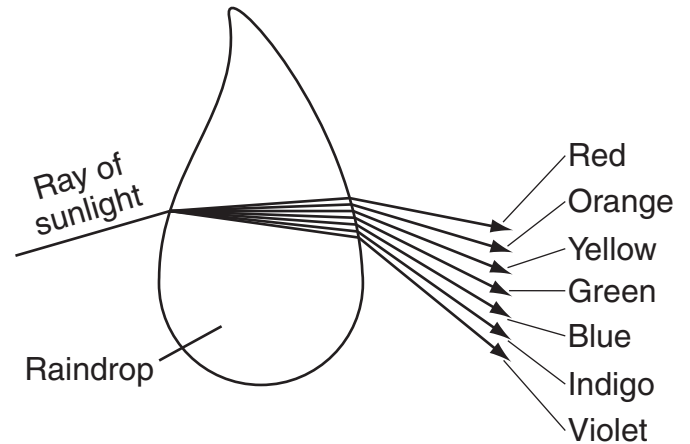21. The physical properties of four items are shown in the table below.

Physical Properties

Item	Temperature (in °C)	Color	State of Matter
W	0	Green	Gas
X	10	Clear	Liquid
Y	120	Clear	Liquid
Z	130	Orange	Solid

Which item is **most likely** cold water?

A. W

B. X

C. Y

D. Z

22. A ray of sunlight passes through a raindrop, as shown below.

Which characteristic of a light ray is shown as it passes through the raindrop?

A. Light rays move very fast.

B. Light rays can pass through solids.

C. Light rays are made of many colors.

D. Light rays add color to water.

23. How is the life cycle of a bird different from the life cycle of a dog?

    A. Birds care for their young.
    B. Birds lay eggs with a hard shell.
    C. Birds have babies that grow slowly.
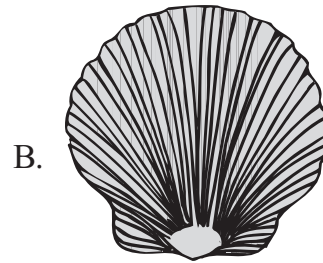   D. Birds have two parents.

24. Which mixture can be separated by using a magnet?

    A. oil and water
    B. sand and salt
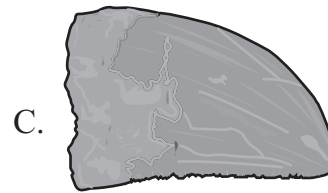   C. water and sugar
    D. iron filings and pepper

25. Trace fossils provide information about how dinosaurs moved and behaved. Which picture shows a trace fossil?

A.

Bone

B.

Shell

C.

Tooth

D.
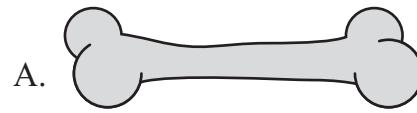
Trackway

26. Animals have teeth, claws, or body coverings for protection. What do some plants have for protection?

    A. big leaves

    B. bright colors

    C. flowers

    D. thorns

27. After killing a buffalo, Montana American Indians dried the meat. Which statement explains the reason they dried the meat?

    A. The dried meat tasted better than the fresh meat.

    B. The dried meat weighed more than the fresh meat.

    C. The dried meat did not spoil as easily as the fresh meat.

    D. The dried meat had more protein than the fresh meat.

Acknowledgments

measured
progress